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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,020	09/21/2001	Hiroaki Kubo	JP920000259US1	5130

7590 08/08/2006

Schmeiser, Olsen & Watts
Jack P. Friedman
3 Lear Jet Lane
Suite 201
Latham, NY 12110

EXAMINER

FLETCHER, JAMES A

ART UNIT

PAPER NUMBER

2621

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/961,020

Applicant(s)

KUBO ET AL.

Examiner

James A. Fletcher

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-11, 13-16 and 18-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-11, 13-16, and 18-2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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New Art Unit

1. Please include the new Art Unit 2621 in the caption or heading of any written or facsimile communication submitted after this Office Action because the examiner, who was assigned to Art Unit 2616, will be assigned to new Art Unit 2621. Your cooperation in this matter will assist in the timely processing of the submission and is appreciated by the Office.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 29 June 2006 has been entered.

Response to Arguments

3. Applicant's arguments with respect to claims 1-3, 5-11, 13-16, and 18-2 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-3, 5-11, 13-16, and 18-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al (6,628,890), and further in view of Yoshimura et al (6,647,201).

Regarding claim 1, Yamamoto et al disclose an apparatus and method for recording and reproducing digital data, comprising:

- receiving means for receiving first compressed data composed of a plurality of packets, the first compressed data including a plurality of programs multiplexed in a time division manner (Col 4, lines 57-63 “The demodulation/error correction unit 2 performs demodulation and error correction for the bitstream input from the tuner 1, converts the same into a transport stream [TS] defined by MPEG2 system, and output the TS to the demultiplexer unit 3. The demultiplexer unit 3 demultiplexes an audio or video PES packet of one program from the TS input”);
- data separating means for extracting specific compressed audio/video data corresponding to a desired program from the first compressed data received by the receiving means (Col 4, lines 62-64 “The demultiplexer unit 3 demultiplexes an audio or video PES packet of one program from the TS input”);
- record control means for generating second compressed data including the compressed audio/video data extracted by the data separating means (Col 4, line 67 -Col 5, line 2 “ The PES packet storage block 8 records the audio or video PES packet input from the demultiplexer unit 3, in the A/V-HDD1”);

- recording means for recording the second compressed data generated by the record control means (Col 1, lines 7-8 “digital recording/reproduction apparatus”;
- data reproducing means for decoding the compressed audio/video data included in the second compressed data (Col 5, lines 23-26 “The reproduction device 32 comprises...an A/V decoder 24”);
- reproduction control means for reading the second compressed data from the recording means and transmitting the second compressed data to the data reproducing means (Fig. 1, item 22 “navigation control block”); and
- Yamamoto et al suggest a means for controlling the transmitting and reading of the data to and from the recording means in a time division manner in that he discloses a recording process (Col 4, line 67 – Col 5, line 2) and a reproduction process (Col 5, lines 39-44) that take place at different times, but does not specifically disclose this function as being time-division multiplexing.

Yoshimura et al teach a time division control means for controlling the transmitting and reading of the second compressed data to and from the recording means in a time division manner (Abstract “An audio signal and a video signal are recorded onto a hard disk. In the hard disk, by time-divisionally processing the recording and reproduction, they are executed in parallel.”).

As suggested by Yamamoto et al and taught by Yoshimura et al, time division control means for multiplexing the read/write head of a disk drive for

apparent simultaneous recording and reproduction is well known and commercially available, providing the user with a single device that can record a program while the user is watching a program being reproduced from the recording medium.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto et al to time-division multiplex the operation of the read/write head of the disk drive.

- Yamamoto et al are silent on the subject of a switch for selecting either the input signal or the reproduced signal.

Yoshimura et al teach a switching means for switching between the compressed audio/video data extracted by the data separating means to the data reproducing means (Fig. 3, item 58) and transmitting the second compressed data from the reproduction control means to the data reproducing means (Col 8, lines 28-32 "The switching circuit 58 is used to switch a picture plane based on received television broadcasting or the video signal from the external video input terminal 56 and a reproduction picture plane from a hard disk drive 80").

As taught by Yoshimura, a switch to select either the input signal or a reproduced signal is well known and commercially available, allowing the user to view live programming when he sees fit, and view recorded programming at other times.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto to include an E-E (electronics-to-electronics) switch.

Regarding claim 9, Yamamoto et al disclose a method for recording and reproducing digital data, comprising:

- receiving first compressed data by receiving means, including a plurality of programs multiplexed in a time division manner (Col 4, lines 57-63 "The demodulation/error correction unit 2 performs demodulation and error correction for the bitstream input from the tuner 1, converts the same into a transport stream [TS] defined by MPEG2 system, and output the TS to the demultiplexer unit 3. The demultiplexer unit 3 demultiplexes an audio or video PES packet of one program from the TS input");
- extracting, by data separating means, specific compressed audio/video data corresponding to a desired program from the first compressed data received by the receiving means (Col 4, lines 62-64 "The demultiplexer unit 3 demultiplexes an audio or video PES packet of one program from the TS input");
- generating second compressed data including the compressed audio/video data extracted in the extracting step (Col 4, line 67 -Col 5, line 2 "The PES packet storage block 8 records the audio or video PES packet input from the demultiplexer unit 3, in the A/V-HDD1");

- recording the second compressed data generated by the record control means (Col 1, lines 7-8 “digital recording/reproduction apparatus”);
- reading the second compressed data from the recording means and transmitting the second compressed data to the data reproducing means (Fig. 1, item 22 “navigation control block”);
- Yamamoto et al disclose a method for decoding and reproducing the second compressed data (Col 5, lines 23-26 “The reproduction device 32 comprises...an A/V decoder 24”), but do not disclose that the reproduction is simultaneous with additional second compressed data being recorded in the recording means.

Yoshimura et al teach a method for controlling the recording medium so recording and reproduction are accomplished with apparent simultaneity (Col 5, lines 57-59 “a recording medium control step of controlling so as to execute the recording to the recording medium and a reproduction from the recording medium in parallel”).

As suggested by Yamamoto et al and taught by Yoshimura et al, apparent simultaneous recording and reproduction is well known and commercially available, providing the user with a single device that can record a program while the user is watching a program being reproduced from the recording medium.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto et al to time-division multiplex the operation of the read/write head of the disk drive.

- Yamamoto et al suggest a method for controlling the transmitting and reading of the data to and from the recording means in a time division manner in that he discloses a recording process (Col 4, line 67 – Col 5, line 2) and a reproduction process (Col 5, lines 39-44) that take place at different times, but does not specifically disclose this function as being time-division multiplexing.

Yoshimura et al teach a time division control means for controlling the transmitting and reading of the second compressed data to and from the recording means in a time division manner (Abstract "An audio signal and a video signal are recorded onto a hard disk. In the hard disk, by time-divisionally processing the recording and reproduction, they are executed in parallel.").

As suggested by Yamamoto et al and taught by Yoshimura et al, time division control means for multiplexing the read/write head of a disk drive for apparent simultaneous recording and reproduction is well known and commercially available, providing the user with a single device that can record a program while the user is watching a program being reproduced from the recording medium.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto et al to time-division multiplex the operation of the read/write head of the disk drive.

- Yamamoto et al are silent on the subject of a switch for selecting only one of either the input signal or the reproduced signal.

Yoshimura et al teach a switching means for switching between only one of the compressed audio/video data extracted by the data separating means to the data reproducing means (Fig. 3, item 58) and the second compressed data from the reproduction control means to the data reproducing means (Col 8, lines 28-32 "The switching circuit 58 is used to switch a picture plane based on received television broadcasting or the video signal from the external video input terminal 56 and a reproduction picture plane from a hard disk drive 80").

As taught by Yoshimura, a switch to select only one of either the input signal or a reproduced signal is well known and commercially available, allowing the user to view live programming when he sees fit, and view recorded programming at other times.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto to include an E-E switch.

Regarding claims 2 and 10, Yamamoto et al disclose an apparatus and method for recording and reproducing digital data wherein the first compressed data is MPEG2-TS data and the second compressed data is MPEG2-PES data (Col 7, lines 22-24 "The

demultiplexer unit 3 demultiplexes, from the input TS, an audio or video PES packet...and outputs the PES packet”).

Regarding claim 7, Yamamoto et al disclose an apparatus for recording and reproducing digital data comprising video data decoding section and audio data decoding section for decoding the compressed video data and compressed audio data, respectively, in the data reproducing means (Col 5, lines 53-56 “The A/V decoder 24 decodes the audio or video PES packet data input by the PES packet buffer 23, and outputs the video data to the digital encoder 26 and the audio data to the audio DAC 27, respectively”).

Regarding claim 13, Yamamoto et al disclose a method of recording and reproducing digital data comprising the steps of:

- transmitting the compressed audio/video data extracted in the extracting step to the data reproducing means (Col 8, line 66 - Col 9, line 4 “the navigation control block 22 instructs the data transfer to the PES packet reading block 21 according to an available space in the PES packet buffer 23. The PES packet reading block 21 extracts an audio or video PES packet from the A/V-HDD 1 [10], and output the PES packet data to the PES packet buffer 23”).
- while simultaneously blocking transmission of the second compressed data from the reproduction control means to the data reproduction means (Col. 5, lines 56-59 “The digital encoder 26 converts the video data received from the A.V decoder 24 into a television output signal, and outputs the signal to the outside.” There is no indication that any other signal, including any signal that

might be made available to be recorded by AV-HDD 1 [10] being available for reproduction. The use of the word "or" means only one limitation need be discussed);

- Yamamoto et al are silent on the subject of a switch for selecting only one of either the input signal or the reproduced signal.

Yoshimura et al teach a switching means for switching between only one of the compressed audio/video data extracted by the data separating means to the data reproducing means (Fig. 3, item 58) and the second compressed data from the reproduction control means to the data reproducing means (Col; 8, lines 28-32 "The switching circuit 58 is used to switch a picture plane based on received television broadcasting or the video signal from the external video input terminal 56 and a reproduction picture plane from a hard disk drive 80").

As taught by Yoshimura, a switch to select only one of either the input signal or a reproduced signal is well known and commercially available, allowing the user to view live programming when he sees fit, and view recorded programming at other times.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto to include an E-E switch.

Regarding claim 15, Yamamoto et al disclose an apparatus for recording and reproducing digital data, comprising:

- a receiver for receiving first compressed data composed of MPEG2_TS data, the first compressed data including a plurality of programs multiplexed in a time division manner (Col 4, lines 57-63 "The demodulation/error correction unit 2 performs demodulation and error correction for the bitstream input from the tuner 1, converts the same into a transport stream [TS] defined by MPEG2 system, and output the TS to the demultiplexer unit 3. The demultiplexer unit 3 demultiplexes an audio or video PES packet of one program from the TS input");
- a filter for extracting specific compressed audio/video data corresponding to a desired program from the first compressed data received by the receiver (The demultiplexer unit 3 demultiplexes an audio or video PES packet of one program from the TS input");
- a data unloader for generating second compressed data composed of MPEG2-PES data including the compressed audio/video data extracted by the filter (Col 4, line 67 -Col 5, line 2 " The PES packet storage block 8 records the audio or video PES packet input from the demultiplexer unit 3, in the A/V-HDD1");
- a recorder for recording the second compressed data generated by the data unloader (Col 1, lines 7-8 "digital recording/reproduction apparatus");
- reproduction control means for reading the second compressed data from the recorder and transmitting the second compressed data to the decoder (Fig. 1, item 22 "navigation control block");

- a decoder for decoding the compressed audio/video data included in the second compressed data (Col 5, lines 23-26 "The reproduction device 32 comprises...an A/V decoder 24").
- Yamamoto et al suggest a method for controlling the transmitting and reading of the data to and from the recording means in a time division manner in that he discloses a recording process (Col 4, line 67 – Col 5, line 2) and a reproduction process (Col 5, lines 39-44) that take place at different times, but does not specifically disclose this function as being time-division multiplexing.

Yoshimura et al teach a time division control means for controlling the transmitting and reading of the second compressed data to and from the recording means in a time division manner (Abstract "An audio signal and a video signal are recorded onto a hard disk. In the hard disk, by time-divisionally processing the recording and reproduction, they are executed in parallel.").

As suggested by Yamamoto et al and taught by Yoshimura et al, time division control means for multiplexing the read/write head of a disk drive for apparent simultaneous recording and reproduction is well known and commercially available, providing the user with a single device that can record a program while the user is watching a program being reproduced from the recording medium.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto et al to time-division multiplex the operation of the read/write head of the disk drive.

- Yamamoto et al are silent on the subject of a switch for selecting only one of either the input signal or the reproduced signal.

Yoshimura et al teach a switching means for switching between only one of the compressed audio/video data extracted by the data separating means to the data reproducing means (Fig. 3, item 58) and the second compressed data from the reproduction control means to the data reproducing means (Col; 8, lines 28-32 "The switching circuit 58 is used to switch a picture plane based on received television broadcasting or the video signal from the external video input terminal 56 and a reproduction picture plane from a hard disk drive 80").

As taught by Yoshimura, a switch to select only one of either the input signal or a reproduced signal is well known and commercially available, allowing the user to view live programming when he sees fit, and view recorded programming at other times.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto to include an E-E switch.

Regarding claims 3, 11, and 16, Yamamoto et al disclose an apparatus and method for recording and reproducing digital data wherein the transmitting and reading of the data to and from the recording means in a time division manner in that he

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discloses a recording process as analyzed and discussed above, but does not specifically disclose this function as being time-division multiplexing.

Yoshimura et al teach a time division controller disposed between the data unloader and the recorder, and also disposed between the recorder and the reproduction control means (Fig 6, item 207, and Col 2, lines 11-14 "On the basis of a control of a recording/reproduction controller 207, the video data and audio data temporarily stored in the buffer memories 204 and 210 are read out and are written into a hard disk drive 206 through a bus 205")

As suggested by Yamamoto et al and taught by Yoshimura et al, buffer control for multiplexing a read-write head of a disk drive being disposed between the record control means and the reproduction control means is well known and commercially available, providing the ability to use a single head in a time-division multiplexed manner for both recording and reproduction.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto et al in order to provide read/write buffer control circuitry where it can time-division multiplex a single head for apparent simultaneous record and reproduction.

Regarding claims 5, 14, and 18, Yamamoto et al disclose an apparatus for recording and reproducing digital data comprising monitoring means for monitoring the amount of data transmitted from the reproduction control means to the data reproducing means (Col 8, line 66 - Col 9, line 1 "the navigation control block 22 instructs the data

transfer to the PES packet reading block 21 according to an available space in the PES packet buffer 23”).

Regarding claims 8 and 20, Yamamoto et al disclose an apparatus for recording and reproducing digital data wherein the recording means is a hard disk (Col 1, lines 6-10 “a digital recording/reproduction apparatus for recording/reproducing digital image data which is high-efficiency coded, to/from a random access recording medium such as an A/V-HDD [Audio/Video-Hard Disk Drive]”).

Regarding claims 21-23, Yamamoto et al are silent on the subject of a switch for selecting an output of the data selecting means and providing that signal to the data reproducing means.

Yoshimura et al teach a switching means for providing the input signal to the data reproducing means (Fig. 3, item 58 and Col 8, lines 28-32 “The switching circuit 58 is used to switch a picture plane based on received television broadcasting or the video signal from the external video input terminal 56 and a reproduction picture plane from a hard disk drive 80”).

As taught by Yoshimura, a switch to provide the input signal to the reproduction means is well known and commercially available, allowing the user to view live programming when he sees fit, and view recorded programming at other times.


Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto to include an E-E switch.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Fletcher whose telephone number is (571) 272-7377. The examiner can normally be reached on 7:45-5:45 M-Th, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on (571) 272-7950. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JAF
3 August 2006


James J. Groody
Supervisory Patent Examiner
Art Unit 262 2621